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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/828,993

04/21/2004

Harold Alexis Huggins

HUGGINS 7

5503

47396

7590

02/09/2007

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EXAMINER

LIE, ANGELA M

ART UNIT

PAPER NUMBER

2163

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/09/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/828,993

Applicant(s)

HUGGINS, HAROLD ALEXIS

Examiner

Angela M. Lie

Art Unit

2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 29 and 34-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29 and 35-40 is/are allowed.
- 6) ☒ Claim(s) 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/21/2004
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over**

**Krishaswamy et al (US Patent 5853601) in the view of Fjelstad (US Patent**

**4482445)** Krishaswamy teaches a radio frequency (RF) component comprising: a dielectric layer (Figure 5F below, element 103) having opposing first and second major surfaces, the first surface being free from a semiconductor substrate (semiconductor is etched away, leaving air gap behind), the dielectric layer having a plurality of openings (Figure 5F below, element 113) extending between the first and second opposing major surfaces; and a patterned conductive layer (Figure 5F below, elements 105 and 109) on the second major surface of the dielectric layer (Figure 5F, element 103), wherein the plurality of openings (Figure 5F, elements 113) are on opposing sides (as shown in the figure below) of the patterned conductive layer (Figure 5F, element 109) and through the RF component at least to the semiconductor substrate (Figure 5F, element 101). Krishaswamy teaches all the limitations as listed above, however he does not teach each opening having respective rounded over edges adjacent the first and the second surfaces. Fjelstad teaches dielectric laminate wherein comprising a plurality of holes,

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wherein the edges are smoothly rounded (column 3, lines 54-61). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to have rounded hole edges as taught by Fjelstad, on both side of the dielectric taught by Krishaswamy as to diffuse stress normally concentrated at the hole edges and minimizing "corner crack" (column 3, lines 54-60).

***Allowable Subject Matter***

3. **Claims 29 and 35-40 are allowed.**

The following is an examiner's statement of reasons for allowance:

**As to claim 29**, the prior art fails to teach an RF (Radio Frequency) component comprising: a dielectric layer, a patterned conductive layer and plurality of openings wherein all those elements are arranged in the manner as disclosed in claim 29.

**As to claims 35-40**, those claims are allowed by the virtue of their dependency on claim 29.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

5. Applicant's arguments filed on November 10, 2006 have been fully considered but they are not persuasive.

6. With respect to the applicants assertion on page 5, third paragraph regarding an independent claim 34, stating that Fjelstad does not teach dielectric layer having rounded over edges, the examiner agrees with this assertion, however claim 34 does not clearly require rounded over edges formed within the dielectric layer. Furthermore, even though claim 34 would require this limitation, it still does not exclude Fjelstad's teaching from the valid prior arts, because it is important why structurally rounded over edges are beneficial to the system and not what kind of material they are made of. The examiner agrees that good durability of material could minimize the risk of possible cracks, and therefore would not require the rounded over edges as much as more fragile material, but even in this case if the rounded over edges are suggested to be used in the metal, it would be even more desirable to have them in less durable material such as dielectric.

***The Prior Art***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hansen et al (US Publication No. 2005/0219123) disclose a device for transmitting high frequency waves with plural openings in a

dielectric layer however conductive plate is deposited inside the dielectric layer and not on top surface of the dielectric.

- Andrews (US Patent No. 4706050) discloses a microstrip device with plural openings and dielectric layer, however the openings are made within metallic plate and not in the dielectric layer.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

9. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Inquiry***

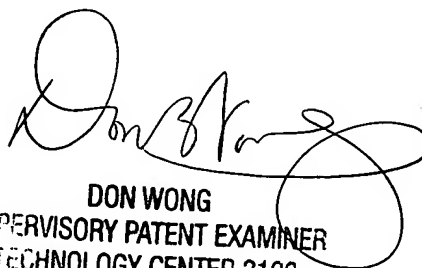
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**Angela M Lie**



**DON WONG**  
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